TRANSACTIONS
OF THE
ROYAL SOCIETY OF NEW ZEALAND

BOTANY

VOL. 2 NO. 14 SEPTEMBER 27, 1963

Notes On New Zealand Orchids—II

By EDWIN D. HATCH

[*Received by the Editor, May 9, 1963.*]

ACKNOWLEDGMENTS

I am indebted to Dr Leslie A. Garay, Curator of the Oakes Ames Herbarium, Harvard University, U.S.A., for identifying *Yoania* and providing invaluable notes and drawings. Also to Mr J. Beever, Dr R. C. Cooper, Mrs P. Hynes and Mrs L. M. C. Smith for further assistance, information and material.

(1) Tribe EPIDENDREAE Lindl.
Subtribe CYRTOPODIINAE Benth.

Genus **Yoania** Maximowicz in *Bull. Acad. Sci. Petersb.* 18: 68. 1873.

A small genus of semi-subterranean, saprophytic, non-chlorophyllous herbs with slender branching rhizomes and reduced bracteate leaves. The 5 or 6 species occur in Japan and Formosa, the Himalayas, North Africa and New Zealand. They appear to be very local with wide gaps between. The disjunct distribution suggests that undiscovered or unrecognised species may occur in the intermediate areas. This is not improbable since the greater part of the life cycle is spent out of sight beneath the surface and discovery must be more or less accidental.

The type of the genus (*Y. japonica* Maxim.) has regular flowers borne on long slender pedicels, the labellum-disc is deeply spurred and the column-wings acute. There are 4 sectile pollinia superimposed—(2 on 2). The New Zealand plant is however in a state of extreme reduction. The pedicels are short, the labellum disc is not spurred, the column-wings are fleshy and obtuse, and there are only 2 pollinia. These differences so strain the original generic description that I propose creating a separate subgenus as under:

Subgenus TARAIREA Hatch subgenus nov.

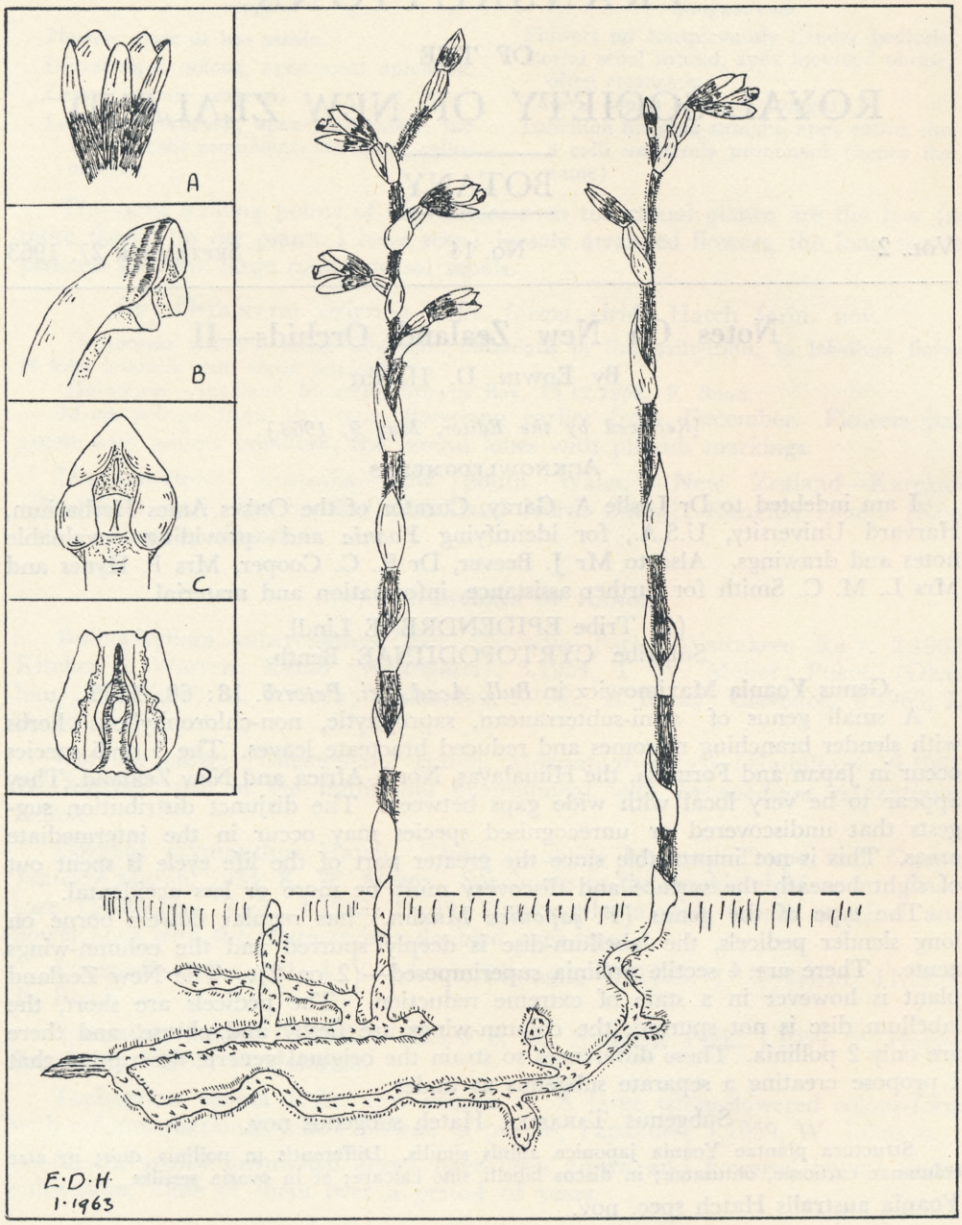
Structura plantae Yoania japonica affinis similis. Differentis in pollinia duo; in alae columnae carnosae, obtusatae; in discus labelli sine calcare; et in ovaria sessiles.

Yoania australis Hatch spec. nov.

Saprophytica, semi-subterranea, haud viridis. Planta matura rhizomata, ramosa, tortuosa, 4mm diam. Peduncula 1–7, erecta, rubris pubescens, 7–12cm alta x 2mm diam. Folia 1–7 vaginata, bracteata, acuta, 1cm longa. Flores 1–5, 6mm longi, subregulares. Sepala et petala similes, oblongi-obtusata, 5mm longa x 2.5mm lata. Labellum oblongi-truncatum, 4mm longum x 2.5mm latum, margines incurva. Callus flavus, oblongus, cum jugum medium conspicuum. Columna incurva, normaliter sed reducit, stigma in partim includo alis columnae.

Holotypus—in the Auckland Museum. Glorit 24.12.1962. R. Beever.

Published by the Royal Society of New Zealand, c/o Victoria University of Wellington, P.O. Box 196, Wellington.



Yoania australis Hatch
(A) Flower from above, showing short dorsal sepal. (B) Column from side. (C) Column from front. (D) Labellum from above, slightly flattened.

Plant body a branching tangled whitish rhizome about 4mm diameter and up to 60cm long. Stems several erect, up to 12cm high by 2mm diameter, brownish-red, pubescent. Leaves 1–7, reduced to sheathing bracts about 1cm long, acute, colourless with pale pink striae. Floral bracts similar to and not much smaller than the stem bracts. Flowers 1–5, about 6mm long, the lower portion brownish-pink, the upper white. Dorsal sepal cucullate, acute, shorter than the

lateral sepals and petals, 4.5mm long by 1.5mm broad. Lateral sepals and petals similar, oblong-obtuse, 5mm long by 2mm broad. Labellum translucent, oblong-truncate, 4mm long by 2.5mm broad, the margins inrolled. Callus dull yellow, with 3 longitudinal pink striae and a conspicuous central ridge. Column incurved, the anther-connective brownish-red, pollinia yellow. Column-wings large, oblong, enveloping and partly obscuring the squarish 2-celled stigma.

The plant, though small, is quite conspicuous, the dark stem and flower bases contrasting with the colourless bracts to give a banded effect which stands out against the dark background of the surface debris. The short dorsal sepal, overlying the longer petals, gives the illusion of an emarginate apex to the flower. The column is adapted for self-fertilisation, the wings almost enclosing the stigma. The concave labellum, however, in conjunction with the dorsal sepal, forms a narrow tube which could be insect-attractive, so just what happens in nature is open to observation.

DISTRIBUTION: Endemic; found so far only in deep leaf mould beneath mature taraire (*Beilschmiedia tarairi* (A. Cunn.) Benth.) in situations which are relatively dark and damp.

(a) Waipoua River (Northland), 28.1.1955, E. Kulka. A single dried specimen, plucked at ground level and a little past full bloom, handed on to me by Colwyn Trevarthen, 28.5.1955. Noted and illustrated in *Auck. Bot. Soc. Newsletter,* Sept., 1955, and repeated in *Aucklands Orchids,* 1959, p. 7, tl. fig. D.

(b) Glorit (Kaipara Harbour), 24.12.1962, R. and J. Beever. Handed on to me by Mrs P. Hynes, 10.1.63. A block of assorted leaf and root debris 12cm by 12cm by 7cm deep, contained a tangled mass of branching rhizome totalling 62cm in length, on which were 3 flowering stems and 4 more just breaking the surface. The whole was intertwined with long white fungal hyphae. At the present time (May, 1963) I have had the Glorit rhizomes in cultivation for 5 months and they are still alive, if not exactly thriving. It is, however, hardly likely that in a state of nature they could survive the summer season, since they live, not in the soil but in the debris layer which is comparatively open. It seems probable that tubers are formed to lie dormant until the autumn rains. The complete absence of chlorophyll suggests a mycorrhizal association with the taraire, but this aspect of the plant will have to be studied by mycologists.

(ii) **Caladenia carnea** R.Br. var. **minor** (Hook. f.) Hatch forma **calliniger** Matth. ex Hatch form. nov.

This plant has been known since 1928, when H. B. Matthews collected it from the Glen Eden slopes of the Waitakere Ranges and gave it the MS. name of "Caladenia calliniger". In *Trans. R.S.N.Z.* 77: p. 402. 1949 I called it "jordanon (ii)" of *C. carnea* var. *minor* but this proved too clumsy in use so I am renaming it. There do not appear to be any of Matthews' original specimens extant so I have chosen the holotype at random from my own collection. Matthews name is excellent and his description fits the plant perfectly and I feel he should be credited with its discovery.

Caladenia carnea minor affinis subsimilis. Differentis in sepalum dorsale cucullatum; in flores pullivirides cum rubris pubescens; in discus labelli, lobum medium et omnes calli rubriniger.

Holotypus: Auckland Museum—Bankside, Silverdale, 12.10.1949, F. W. Bartlett.

Similar to var. *minor* in general form, differing in the flower being dark green with red pubescence, the dorsal sepal strongly cucullate and the labellum disc, midlobe and all the calli a dark chocolate brown.

DISTRIBUTION: Endemic, common throughout the Coromandel, Hunua and Waitakere Ranges, extending northwards to Orewa.

(iii) **Microtis magnadenia** R. S. Rogers *Trans. R. S. South Austr.* 54: 44. 1930.

DISTRIBUTION: Australia—New South Wales. New Zealand—fairly common in high country tussock from Cass and Lake Grasmere southwards to Mt. Earnslaw. A comparison with the common *M. unifolia* (Forst. f.) Reichb. f. follows:

unifolia	*magnadenia*
Flowers more or less sessile.	Flowers on conspicuously slender pedicels.
Dorsal sepal oblong, apex erect apiculate.	Dorsal sepal rotund, apex incurved obtuse, often emarginate.
Lateral sepals recurved.	Lateral sepals hanging straight.
Labellum recurved, apex emarginate, the 2 basal calli prominent, the apical callus obscure.	Labellum hanging straight, apex entire, the 3 calli uniformly prominent (hence the name).

The most striking points of identification to the casual glance are the few (no more than 4 in the plants I have seen) loosely arranged flowers, the long slender pedicels and the large round dorsal sepals.

(iv) **Orthoceras strictum** R.Br. forma **viride** Hatch form. nov.

Orthoceras strictum affine subsimile; differentis in flos palliviridis, in labellum flavum et loba lateralia cum striae puniceae.

Holotypus—Auckland Museum, Browns Bay, 15.12.1958, P. Bond.

More robust than the type, flowering earlier from December. Flowers pale green with yellow labellum, the lateral lobes with pinkish markings.

DISTRIBUTION: Australia—New South Wales. New Zealand—Karekare (Waitakere Ra.), Browns Bay (Auckland North Shore), Rangipo Desert (Ruapehu). Locally abundant.

(v) EXTENSIONS OF RANGE

Bulbophyllum tuberculatum Col. Cascades Park (Waitakere Ra.), 2.1962, Kitchen & Warren; Kamo (Whangarei), 3.1954, T. W. Mellor; Puketi (Okaihau), 6.1962, F. M. Warren; Waimauku, 9.1962, L. Butler; Clevedon, 6.1963, L. Butler.

Corybas carsei (Cheeseman) Hatch, Moanatuatua bog (Hamilton), 9.1961, W. Butcher; still in the traditional environment with *Lycopodium serpentinum* Kunze.

Corybas cryptanthus Hatch. Three localities between Taupo and Opepe, January–March, 1934, K. W. Allison. Specimens in the Auckland Museum; Karekare (Waitakere Ra.), 4.1963, E. D. Hatch; plants with tubers attached and flower buds with the characteristic doubled over tips.

Pterostylis foliata Hook. f. Mount Pirongia, 10.1949, J. B. Irwin; 11.1959, P. Bond.

Spiranthes lancea (Thunb.) Backer et al. National Park, 1.1959, P. Hynes; Papakura, 1.1959, W. Johnson.

Thelymitra venosa R.Br. var. **venosa.** A large white-flowered colour-form with column markings yellow instead of purple; Papakura, 1.1959, W. Johnson.

All the plants mentioned above have been grown and flowered by me under cultivation, some of them over a period of years.

EDWIN D. HATCH,
583 Tane Road,
" Laingholm Central ",
Auckland, S.W.4.